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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/316,754	05/21/1999	SHIA-SAN GONG	AT9-98-884	8260

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EXAMINER

VO, LILIAN

ART UNIT PAPER NUMBER

2127

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/316,754

Applicant(s)

GONG ET AL.

Examiner

Lilian Vo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 4 and 6 - 8 is/are rejected.
- 7) ☐ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1 – 8 are pending.

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 4 and 6 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suver (US 6,016,497) in view of Burger et al. (US 6,161,170, hereinafter Burger).

4. Regarding **claim 1**, Suver teaches a method for storing data that has at least some entries with multiple value attributes (abstract, col. 1, lines 24 – 36, col. 3, lines 6 – 17, 25 - 40), comprising the steps of:

storing data in an attribute table (col. 3, lines 6 – 16: a new separate table must be created for storing multiple values data – plural telephone numbers, lines 25 – 40: embedded data is being treated as a tables themselves. Attribute table stores multiple value attributes according to applicants' definition specification page 6, lines 1 – 2, 14 – 15 and page 13, line 5 – page 15, line 22) or, alternatively, in a merged table (fig. 3, customers table 301: each attribute in this table has

single value attribute. Merged attribute table stores single value attributes according to applicants' specification page 5, line 25, page 6, lines 12 – 13 and page 13, line 5 – page 15, line 22) and an overflow table (fig. 3, custaddress table 302, custphones table 303: each of the custaddress and custphones tables represents the per attribute tables which store multiple value attributes such as multiple phone numbers and multiple addresses for a single customer. An overflow table is a given set of per attribute tables as defined by applicants' specification page 13, lines 6 – 9 and fig. 5: tables 62a – 62b).

Suver however did not clearly teach the steps of profiling the data to determine how to how to store the data and storing the data optimally based on the profiling step. Nevertheless, Burger teaches the concept of profiling the data to determine how to handle the data and the handling data based on the profiling step to provide improved system performance (fig. 6, abstract, col. 10, lines 4 – 22).

It would have been obvious for one of an ordinary skill in the art, at the time the invention was made to incorporate Burger's teaching of the profiling concept to Suver's system so that data handling can be more effective to enhance system performance (Suver: col. 2, lines 44 – 50).

5. Regarding **claim 2**, Suver teaches the entries with single value attributes are stored in the merged table (fig. 3, table customers).

6. Regarding **claim 3**, Suver teaches the entries with multiple value attributes are store in the overflow table (fig. 3, custaddress table and custphones table, col. 8, lines 6 – 16, col. 8, line 60 - col. 9, line 12).

7. Regarding **claim 4**, Suver teaches the overflow table is an attribute table (fig. 3, custaddress table and custphones table, col. 8, lines 6 – 16, col. 8, line 60 - col. 9, line 12).

8. Regarding **claim 6**, Suver inherently teaches the step of parsing the data to identify entries with single value attributes (col. 1, lines 24 – 36, col. 3, lines 6 – 17: the data must have been parsed to distinguish whether it is single value attribute and multiple value attribute. Hence, by distinguishing the type of data, it is inherently teaching the step of parsing data to identify entries with single value attributes).

9. Regarding **claim 7**, Suver teaches the step of parsing the data to identify given operations that are performed on the data once stored (fig. 12: 1204 receive command – receive data, 1400 interpret command – examine, analyze, and/or parse data, 1206 update schema – update operation, 1500 update or insert data – update or insert operation, 1700 find and retrieve data – search and retrieve operation. Fig 14: 1407 parse the command whether it is a schema command 1410 for update operation 1415, or it is data update command 1420 for insert operation 1426 or it is a query 1435 for search operation).

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10. Regarding **claim 8**, Suver teaches the data is stored in a relational database backing store (col. 1, lines 24 – 36, col. 2, lines 53 – 57, col. 9, lines 15 - 26).

***Allowable Subject Matter***

11. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

12. Applicant's arguments filed 5/10/2004 have been fully considered but they are not persuasive for the reasons set forth below.

13. In response to applicant's argument (page 2, last paragraph and page 3) that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation for the rejection is found in both references as stated above (Burger: col. 10, lines 4 – 22, and Suver: col. 2, lines 44 - 50) so that data can be handled more effectively to further improve system performance.

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14. In response to applicant's argument (page 3, 2<sup>nd</sup> paragraph) that the motivation from the secondary reference (Burger) "is not an evidence as why one of ordinary skill in the art with a primary reference (Suver) in front of him would have been motivated to modify Suver with the teachings of the secondary reference, Burger", the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981) and *In re Young*, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991).

15. In response to applicants' arguments against the references individually (page 3, 2<sup>nd</sup> paragraph - page 4, 3<sup>rd</sup> paragraph), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Further, Burger reference was merely used to illustrate the concept of profiling the data to determine how to handle data which was not clearly disclose in Suver and not necessary use to demonstrate the teaching of providing a computer architecture in which the performance typical of on-chip memories can be approached with large off-chip memories as asserted by applicants (page 4, 2<sup>nd</sup> paragraph).

16. In response to applicants' remark that the examiner has not provided any basis in fact and/or technical reasoning support the assertion that table 301 teaches merged table and that

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table 302 or table 303 teaches an overflow table (page 5, 1<sup>st</sup> paragraph), fact and technical reasoning support has been provided as stated in the rejection above and based on applicants' disclosure, specification page 6, lines 1 – 2, 14 – 15 and page 13, line 5 – page 15, line 22, page 5, line 25, page 6, lines 12 – 13 and page 13, line 5 – page 15, line 22 and page 13, lines 6 – 9 and fig. 5: tables 62a – 62b.

Further, the examiner would like to point out that claim 1 recites "...profiling the data to determine whether the data should be stored in an attribute table or, alternatively, in a merged table and an overflow table..." Since claim 1 expresses the **OR** condition, the reference needs to show only one of either one of the limitations to meet the claim.

17. In response to applicants' remark that Burger does not teach profiling data to determine where the data is stored and storing the data optimally based on the profiling step (page 5, 2<sup>nd</sup> paragraph), Burger was used to illustrate the concept of profiling the data to determine how to handle data which was not clearly disclose in Suver. As for the step of where to store data and storing the data optimally, this is clearly discloses in Suver in which a determination was made to which table to store data (complex data – multiple value and simple data – single value) and that improved database structure with how data is saved enable easy access to database usage (col. 1, line 61 – col. 2, line 50). Customers table (fig. 3: 301) is used to store customers information that has single value attribute and custaddress and custphones tables are used to store plural telephone numbers and addresses associated with a single customer that have multiple value attributes (fig. 3: 302, 303. col. 1, lines 28 – 37). Therefore, one cannot show

nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

On another perspective, the data must have been examined and analyzed before it identified as a single value or multiple value attributes so that it can be stored appropriately in either a customers table (store single value) or in a separate table such as custaddress or custphones tables (store multiple value). Hence, by examining and analyzing, it is inherently teaching the step of profiling the data to determine where the data is stored and storing the data optimally based on the profiling step.

18. With respect to applicants' argument that there is no language in the cited passages that teach parsing data to identify entries with single value attributes (page 6, 1<sup>st</sup> paragraph), the data must have been parsed to distinguish whether it is single value attribute and multiple value attribute. Hence, by distinguishing the type of data, it is inherently teaching the step of parsing data to identify entries with single value attributes.

19. With respect to applicants' argument that there is no language in the description of these figures 12 and 14 that teaches parsing data to identify operations that are performed on the data once stored (page 6, 2<sup>nd</sup> paragraph), a detail description of how these figures 12 and 14 in Suver read on the claim language for teaching the claim limitation has been provided in the rejection as stated above and recited again herein. Fig. 12 shows a logic flow diagram 1204 receive

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command – receive data, 1400 interpret command – examine, analyze, and/or parse data, 1206  
update schema – update operation, 1500 update or insert data – update or insert operation, 1700  
find and retrieve data – search and retrieve operation. Fig 14 shows a logic flow diagram 1407  
parse the command whether it is a schema command 1410 for update operation 1415, or it is data  
update command 1420 for insert operation 1426 or it is a query 1435 for search operation. In  
other words, the data (command) is parsed to identify given operations (update, insert, search)  
that are performed on the data once stored in which updating the existing schema, updating the  
existing data in the table, or finding and retrieving the existing data from table.

20. Furthermore, in response to applicants' argument that there is no language in the cited passages or in the description of the figures that teach parsing data (page 6, 1<sup>st</sup> – 2<sup>nd</sup> paragraph), a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

### ***Conclusion***

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kumar, US 6,542,515 B1 and Malloy et al., US 5,940,818, both disclose defining a schema for each data type.

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 703-305-7864. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

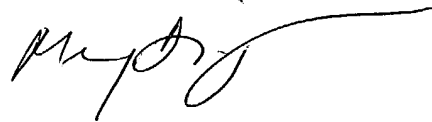
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo  
Examiner  
Art Unit 2127

lv  
February 12, 2004



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